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China, Peoples Republic of

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GB1535-2003 Soybean Oil Standard - G/TBT/N/CHN/25

2004

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Report Highlights:
This report contains an UNOFFICIAL translation of China's approved National Standard for Soybean Oil (GB1535-2003). The Standard, now scheduled for implementation on October 1, 2004, was notified to the WTO on July 28, 2003 (G/TBT/N/CHN/25). For reference, the United States has not established standards for soybean oil. This Standard, for crude, pressed, and solvent extracted soybean oil, is more detailed than the corresponding Codex standard, but appears reasonably consistent.

Includes PSD Changes: No
Includes Trade Matrix: No
Unscheduled Report
Beijing [CH1]
[CH]

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Disclaimer

Information in this translated report may not be completely accurate either because policies may change when the regulation is adopted, or because clear and consistent information about these policies was not available. Therefore, U.S. exporters should try to verify all import requirements with their foreign customers, who are normally best informed, before any goods are shipped. Final import approval of any product is subject to the importing country's rules and regulations as interpreted by border officials at the time of product entry. In the event of any errors or omissions in this translation, the original Chinese version shall prevail.

Background

China's previous National Standard for Soybean Oil has been replaced by the version notified to the World Trade Organization on July 28, 2003 (G/TBT/N/CHN/25). This National Standard for Soybean Oil (GB1535-2003) appears reasonably consistent with Codex Standards and is scheduled for implementation from October 1, 2004.

The Standard is for crude, pressed, and solvent extracted soybean oil. The quality standards in table 1 apply to crude soybean oil while the standards in table 2 apply to finished product soybean oils.

Begin Translation

Preamble

- Part of the indicators in Table 1 and Table 2 of Clause 5.2 and Clause 5.4, Chapter 7 and Chapter 8, are mandatory, while the rest are recommended.
- The standard is a revision of GB 1535-1986 "Soybean Oil".
- The main technical differences between this standard and GB 1535-1986 are as follows:
    - The structure, technical elements and descriptive rules of this Standard are modified according to GB/T 1.1-2000 "Standardized Working Guide Rules, Part 1: Structure and Writing Rules of the Standard"; classification and grading are made according to the method of soybean oil processing; characteristic indexes contained in the above-mentioned Standard and quality indexes are adjusted; and the relevant indicators in the quality indexes are revised.
- Related indices of this Standard are modified with reference to the International Codex Alimentarius Commission Standard.
- The Standard replaces GB 1535-1986 "Soybean Oil" on the date of adoption.
- This Standard is put forward and governed by the State Administration of Grain.
- The Standard was drafted by the Standard Quality Center of the State Administration of Grain and Xi'an Grease, Food And Fodder Quality Supervision, Inspection & Test Center of the State Administration of Grain. Participants include Shanghai Fulinmen Food Co. Ltd., Heilongjiang 93 Grease & Oil (Group) Co. Ltd. and Guangdong Fengyuan Cereals & Oils industrial Co. Ltd.
- This standard was drafted by Tang Ruiming, Long Lingli, Xue Yalin, Cheng Yan, Xu Xia, Bian Qingde and Zhang Xudong.

GB 1535-2003 National Standard for Soybean Oil

1. Scope

This Standard stipulates the terminology and their definitions, classification, quality requirements of soybean oil, as well as the inspection method and rules, and the requirements of labeling, package, storage and transportation, etc.

This Standard applies to pressed finished product soybean oil, solvent extraction finished product soybean oil and crude soybean oil.

The crude soybean oil quality indices apply only to the trade of crude soybean oil.

2. Referenced Standards

The clauses in the following documents are referenced in this standard and become the clauses of this standard. Any modification (except text corrections) or revisions of the referenced documents specified with date shall not apply to this Standard. However, all parties that use this standard shall decide if the latest editions of the following standard apply. All the latest editions of the referenced documents without a date indication apply to this Standard.

GB 2716 Hygiene Standard for Edible Vegetable Oil
GB 2760 Hygiene Standard for Food Additives Use
GB 7718 General Standard for Foodstuff Labels
GB/T 5490 General Rules for Cereals, Oils And Vegetable Grease Inspection
GB/T 5524 Inspection, Sampling and Splitting Method of Vegetable Grease
GB/T 5525-1985 Inspection Method of Transparency, Color, Odor and Taste of Vegetable Grease
GB/T 5526 Gravity Test Method of Vegetable Grease Inspection
GB/T 5527 Refractive Exponent Test Method of Vegetable Grease Inspection
GB/T 5528 Water Content and Volatile Content Test Method of Vegetable Grease and Oil
GB/T 5529 Impurity Content Test Method of Vegetable Grease and Oil Inspection
GB/T 5530 Acid Value and Acidity Test of Animal and Vegetable Grease and Oil
GB/T 5531 Heating Test of Vegetable Grease and Oil Inspection
GB/T 5532 Iodine Value Measurement of Vegetable Oil
GB/T 5533 Soap Content Test Method of Vegetable Grease and Oil Inspection
GB/T 5534 Saponification Value Test Method of Animal and Vegetable Oil Grease and Oil
GB/T 5535 Unsaponifiable Matter Test Method of Vegetable Grease and Oil Inspection
GB/T 5538 Peroxide Value Test of Grease and Oil
GB/T 5539 Grease and Oil Qualitative Test of Vegetable Grease and Oil Inspection
GB/T 5009.37 Analytical Method of Hygienic Standard for Edible Vegetable Oil
GB/T 17374 Edible Vegetable Oil Sales Package
GB/T 17376 Fatty Acid Methyl Ester Preparation of Animal and Vegetable Grease and Oil
GB/T 17377 Gas Chromatography Analysis of Fatty Acid Methyl Ester of Animal and Vegetable Grease and Oil
GB/T 17756-1999 General Technical Specifications for Salad Oil, Annex A and Annex B

3. Terminology and Definitions

The following terminology and definitions apply to this standard.

3.1. Pressed soybean oil
Oil obtained from soybean by direct pressing.

3.2. Solvent extracted soybean oil
Oil obtained from soybean by solvent extraction process.

3.3. Genetically modified organism soybean oil
Oil made from genetically modified organism soybean.

3.4. Crude soybean oil
Untreated soybean oil that is inedible to human beings.

3.5. Finished product soybean oil
Treated soybean oil that meets quality indices of this Standard and the hygienic requirements of finished product oil and directly edible to human beings.

3.6. Refractive index
The sine ratio between incidence angle and refraction ray angle when light enters grease or oil from air.

3.7. Specific gravity
The weight ratio between vegetable oil and distilled water of the same volume at 20 degrees Celsius.

3.8. Iodine value
The grams of iodine needed for an additional reaction to take place in 100 grams of oil under observed conditions.

3.9. Saponification value
Number of milligrams of potassium hydroxide needed to saponify 1 gram of oil.

3.10. Unsaponifiable matter
Substances in oil that do not act with alkali and can dissolve in ether but not dissolve in water, including sterols, fat-soluble vitamins and pigments, etc.

3.11. Fatty acid
The generic term for fatty group of monocarboxylic acid, with the general expression of R-COOH.

3.12. Color
Color of oil itself, mainly observed from the fat color in oil.

3.13. Transparency
The degree of light to penetrate oil.

3.14. Moisture and volatile matter
Trace amount of moisture and volatile substances in oil at a certain temperature.

3.15. Insoluble impurity
Substances in oil not dissolvable in organic solvent such as petroleum ether etc.

3.16. Acid value
Number of milligrams of potassium hydroxide needed to neutralize the free fatty acid in 1 gram of oil.

3.17. Peroxide value
Number of millimoles of peroxide in 1 kilogram of oil.

3.18. Residual solvent content in oil
Number of milligrams of solvent remaining in 1 kilogram of oil.

3.19. Heating test
Heat the oil sample to 280 degree Celsius and observe if there is any educt and color change.

3.20. Refrigeration test
Put oil sample at 0 degree Celsius for a certain period of time and observe the clearness.

3.21. Saponified matter content
Content of saponified matter in oil after alkali refining (calculated in sodium oleate).

3.22. Smoking point
The temperature at which a heated oil sample starts releasing blue smoke continuously.

4. Classification

Soybean oil is divided into 3 categories of crude soybean oil, pressed finished product soybean oil, and solvent extracted finished product soybean oil.

5. Quality Requirements

5.1. Characteristic index

Refraction index n^{40}		1.466~1.470
Relative density d_{20}^{20}		0.919~0.925
Iodine value I /(g/100g)		124~139
Saponification value (mgKOH/g)		189~195
Unsaponifiable matter (g/kg)		=15
Fatty acid composition (%)		
Fatty acid below 14 carbon		ND~0.1
Amomum acid	$C_{14:0}$	ND~0.2
Palmitinic acid	$C_{16:0}$	8.0~13.5
Palm mono olefine acid	$C_{16:1}$	ND~0.2
Heptadecanoic acid	$C_{17:0}$	ND~0.1
17 carbon 1 olefine acid	$C_{17:1}$	ND~0.1
Stearic acid	$C_{18:0}$	2.5~5.4
Oleic acid	$C_{18:1}$	17.7~28.0
Linoleic acid	$C_{18:2}$	49.8~59
Linolenic acid	$C_{18:3}$	5.0~11.0
Arachidic acid	$C_{20:0}$	0.1~0.6
Peanut mono olefine acid	$C_{20:1}$	ND~0.5
Peanut diolefinic acid	$C_{20:2}$	ND~0.1
Docosanoic acid	$C_{22:0}$	ND~0.7
Docosenoic acid	$C_{22:1}$	ND~0.3
Lignoceric acid	$C_{24:0}$	ND~0.5

Note 1: The above indexes are consistent with those in the International Codex Alimentarius Commission Standard CODEX-STAN 210-1999 "Appointed Vegetable Oil Code Standard".
Note 2: ND means not detected and is defined as 0.05%.

5.2. Quality grade index

5.2.1. For crude soybean oil quality index, refer to Table 1.

Table 1 Crude Soybean Oil Quality Index

Item	Quality index
Odor, taste	Having the natural taste and odor of crude soybean oil, without offensive taste or odor
Moisture and volatile substance (%)	= 0.20
Insoluble impurities (%)	= 0.20
Acid value (mgKOH/g)	**= 4.0**
Peroxide value (mmol/kg)	**= 7.5**
Solvent residue (mg/kg)	**= 100**
Note: Bold face font indicates mandatory.	

5.2.2 Refer to Table 2 for quality indexes of pressed finished product soybean oil and solvent extracted finished product soybean oil.

Table 2 Pressed Finished Product Soybean Oil and Solvent Extracted Soybean Oil Quality Indices

Item		Quality index			
		Grade 1	Grade 2	Grade 3	**Grade 4**
Color	(Lovibond color comparator 25.4mm) =	——	——	Yellow 70 Red 4.0	**Yellow 70 Red 6.0**
	(Lovibond color comparator 133.4mm) =	Yellow 20 Red 2.0	Yellow 35 Red 4.0	——	——
Odor, taste		No odor, good taste	No odor, good taste	Having the natural taste and odor of soybean oil, without offensive taste or odor	**Having the natural taste and odor of soybean oil, without offensive taste or odor**
Transparency		Clear, transparent	Clear, transparent	——	—
Moisture and volatile substance (%) =		0.05	0.05	0.10	**0.20**
Insoluble impurities (%) =		0.05	0.05	0.05	**0.05**
Acid value (mgKOH/g) =		**0.20**	**0.30**	**1.0**	**3.0**
Peroxide value (mmol/kg) =		**5.0**	**5.0**	**6.0**	**6.0**

Heating test (280 degrees C)		——	——	No educts, Lovibond color comparison: Yellow value remains unchanged, while red value increases less than 0.4	**Trace amount of educts, Lovibond color comparison: Yellow value remains unchanged, while red value increases less than 4.0 and blue value less than 0.5**
Saponified matter content/ (%) =		——	——	0.03	—
Smoking point / Degrees C =		215	205	——	—
Freezing test (0 degree Celsius for 5.5 hours)		Clear, transparent	——	——	—
Solvent residue (mg/kg)	**Solvent extraction oil**	**Must not be detected**	**Must not be detected**	**= 50**	**= 50**
	Pressing oil	**Must not be detected**	**Must not be detected**	**Must not be detected**	**Must not be detected**
Note 1: The items marked "-" are not tested. When the solvent residue is less than 10mg/kg in press oil and solvent extraction oil of grade 1 and 2, it is deemed as not detected. **Note 2: Bold face font indicates mandatory.**					

5.3. Hygiene indices
Implemented according to GB 2716, GB 2760 and related National Standards or regulations.

5.4. Others
Soybean oil shall not be mixed with other edible oil or inedible oil; and shall not have any added essence or spice.

6. Testing Method
6.1. The inspection of transparency and odor shall be carried out according to Chapter 1 and Chapter 3 of GB/T 5525-1985.

6.2. Color inspection shall be carried out according to Chapter 2 of GB/T 5525-1985.

6.3. Relative density inspection shall be carried out according to GB/T 5526.

6.4. Refractive exponent inspection shall be carried out according to GB/T 5527.

6.5. Moisture and volatile substance inspection shall be carried out according to GB/T 5528.

6.6. Insoluble impurities inspection shall be carried out according to GB/T 5529.

6.7. Acid value inspection shall be carried out according to GB/T 5530.

6.8. Heating test shall be carried out according to GB/T 5531.

6.9. Iodine value inspection shall be carried out according to GB/T 5532.

6.10. Soap content inspection should be carried out according to GB/T 5533.

6.11. Saponification value inspection shall be carried out according to GB/T 5534.

6.12. Unsaponifiable matter inspection shall be carried out according to GB/T 5535.

6.13. Peroxide value inspection shall be carried out according to GB/T 5538.

6.14. Freezing test shall be carried out according to Annex A to GB/T 17756-1999.

6.15. Smoking point inspection shall be carried out according to Annex B to GB/T 17756-1999.

6.16. Solvent residue inspection shall be carried out according to GB/T 5009.37.

6.17. Oil quality testing shall be carried out according to GB/T 5539. The qualitative test and soybean oil characteristic index (5.1) shall be deemed as the comprehensive judgment basis.

6.18. Fatty acid composition inspection shall be carried out according to GB/T 17376-17377.

6.19. Hygiene index inspection shall be carried out according to GB/T 5009.37.

7. Test Rules

7.1. Sampling
Soybean oil sampling shall be carried out according to GB/T 5524.

7.2. Ex-work inspection
7.2.1. Inspection shall be made to each batch, and inspection report shall be issued.
7.2.2. Inspection shall be made according to the stipulations in 5.2 of this standard.

7.3. Type inspection
7.3.1. When there are major changes in raw materials, equipment or process, or as required by quality supervision authorities, type inspection shall be carried out.
7.3.2. Inspection shall be made according to the stipulations in chapter 5 of this Standard.

7.4. Judgement rules
7.4.1. If the product is not labeled for quality grade, it shall be rejected.
7.4.2. In case one item in the grade indices fails, the product shall be rejected.

8. Label
Apart from the stipulations and requirements of GB 7718, the following clauses shall be followed:

8.1. Product name
8.1.1. All products with the mark of "soybean oil" shall conform to this standard.
8.1.2 Genetically modified organism soybean oil shall be marked according to relevant national regulations.

8.1.3. Pressed soybean oil and solvent extracted soybean oil shall be marked with "pressed" or "solvent extracted" in the product label.

8.2 Country of origin
Country name of the origin for raw materials shall be indicated.

9. Package, Storage and Transport

9.1. Package
Package shall conform to GB/T 17374 and relevant state regulations and requirements.

9.2. Storage
It shall be stored in a cool, dry and dark place. It shall not be stored together with any harmful or toxic articles.

9.3. Transportation
During transportation, it shall be protected from sunshine, rain, leakage, pollution and losing its label. Bulk shipment shall be carried out by using special vehicle that must be clean and hygienic.

Reference
[1] International Codex Alimentarius Commission Standard CODEX-STAN 210-1999 "Appointed Vegetable Oil Code Standard"

END TRANSLATION

G/TBT/N/CHN/25 Soybean Oil WTO Notification

WORLD TRADE ORGANIZATION	G/TBT/N/CHN/25 28 July 2003 (03-3996)

Committee on Technical Barriers to Trade Original: English

NOTIFICATION

The following notification is being circulated in accordance with Article 10.6.

1.	**Member to Agreement notifying:** THE PEOPLE'S REPUBLIC OF CHINA **If applicable, name of local government involved (Articles 3.2 and 7.2):**
2.	**Agency responsible:** Standardization Administration of China (SAC) **Name and address (including telephone and fax numbers, e-mail and web-site addresses, if available) of agency or authority designated to handle comments regarding the notification shall be indicated if different from above:**
3.	**Notified under Article 2.9.2 [X], 2.10.1 [ ], 5.6.2 [ ], 5.7.1 [ ], other:**
4.	**Products covered (HS or CCCN where applicable, otherwise national tariff heading.** **ICS numbers may be provided in addition, where applicable):** Soybean oil ICS: 67.200.10
5.	**Title, number of pages and language(s) of the notified document:** China National Standard GB 1535-XXXX Soybean Oil (10 pages, in Chinese)
6.	**Description of content:** For Soybean oil, this standard specifies the definition, classification, quality characteristics, test methods and rules, as well as requirements on labeling, packaging, storage and transport.
7.	**Objective and rationale, including the nature of urgent problems where applicable:** To protect public health and safety
8.	**Relevant documents:**
9.	**Proposed date of adoption:** 90 days after circulation by WTO Secretariat **Proposed date of entry into force:** 6 months after adoption
10.	**Final date for comments:** 60 days after circulation by WTO Secretariat
11.	**Texts available from: National enquiry point [X] or address, telephone and fax numbers, e-mail and web-site addresses, if available of the other body:** China WTO/TBT National Enquiry Point Tel: +86 10 82260618 Fax: +86 10 82262448 E-mail: tbt@aqsiq.gov.cn